8 August, 2001

MODIS sensor Working Group (MsWG) Summary

Attendance: Bill Barnes, Bob Evans, Chris Moeller, Eric Vermote, Gary Toller, Jack Xiong, Jim Young, Stuart Biggar, Suraiya Ahmad, Wayne Esaias, Zhengming Wan, Gwyn Fireman

Scheduled Items

Side A Issues

Band 5 gain was decreased by 25% on day 212; Solar Diffuser measurements were taken on days 213 and 214. MCST will replace the LUT after calibration data is received and analyzed. If data cannot be obtained soon, projected values will be delivered.
Day mode data was taken at night using both 79/110 and 79/190 itwk/vdet settings, to determine SWIR band 5.3μ effective thermal leak coefficients.

Processed granules for Vermote and Biggar using both old and new LUTs. Vermote used optical thickness measurements to confirm that the LUTs with Side A values give better results than Side B values, when used to process data taken with Side A electronics.

Other Issues

A new research L1B code was sent to on August 6. The crosstalk correction algorithm validation is in progress.
SBRS delivered FM1 SDSM screen tolerance parameters, which MCST used as input for SDSM simulation software. Most of the ripple effect comes from the correction for size of aperture; we can expect a 10 – 15% ripple with the current screen. SBRS will consider a retrofit of the SDSM screen. One approach could be to tilt the screen, and resize pinhole spacing to match the stop aperture size.

Around the Table

Barnes: If thermal vacuum test schedule is maintained, Aqua may be ready for launch before February. Earliest possible launch is February 1, 2002; spacecraft will become operational 30 – 60 days later. First data may come in April or May.
Xiong: FM1 Spacecraft-level thermal vacuum tests will begin August 18, and will finish 38 days later. Barnes and Xiong may visit test facilities. Data will be in TAC format; collects may be larger than before.
MODIS tests planned include:

- Ecal
- SRCA spatial and spectral, including special SWIR band testing
- Band 31 and 32 have new gains; determine new T_sat and L_sat
- Band 1 and 2 gains, from SRCA in TV. Verify that earlier variations were due to SRCA lamps being operated in ambient.
- SRCA SWIR crosstalk tests

- SRCA phase delay to determine subframe difference; expected to be less in FM1 than in Terra MODIS.
- NAD-closed test to determine prelaunch RVS
- No EV data will be taken; there is no external source. Noise is determined from spaceview sector.
- Will consider taking EV data after TV, in ambient, to help determine mirror side normalization.

Esaias: Presentations made at IGARSS 2001 by Evans and Esaias are available at http://modis-ocean.gsfc.nasa.gov/refs.html. These present much improved SST accuracy; the two source bands agree to within 0.3K. The improved algorithm has been implemented in MODAPS; about a week of data has been produced.
Miami is looking into the accuracy of SST results obtained with MODIS A-side electronics. Early results correspond well with AVHRR; final results may be available on Thursday.
Vermote: Processed a test granule, after overcoming some logistics difficulties. Newest version includes latest version of Miami's polarization correction. There is no evidence of additional mirror side difference from recent anomaly, when mirror was not rotating; any difference would be most evident in ocean bands.
Ahmad: DAAC data production is at a low level; most processing is shut down during checking of new software versions. Priority is being given to subscriptions.
Reprocessing status: GDAAC is re-processing day 99 (April 9, 2001); MODAPS is re-processing 4/4/01.
Leading Edge Processing status: GDAAC supposed to be processing day 193 (July 13) but at this time GDAAC is processing only special requests and filling the data gaps. MODAPS is at day 152 (June 1, 2001).

Action 0108-01:: Limit MCST special requests so as not to overburden current processing capability.

Moeller: Continued work on crosstalk correction evaluation. Is trying to determine whether Band 17 or Band 5 has more influence on Band 26 images.

Evans: Working on cloud detection in side A data. Implemented homogeneity test and adjusting cutoffs; mostly successful.

Biggar: Will be in the field this week.
Young: Lab setup for measuring SDSM coming along well. Extreme care had to be taken with aligning calibration source lamps. Took one measurement yesterday; observed 0.5% modulation where there shouldn't be any.

Wan: Was in the field for two weeks in July, but couldn't get aircraft flyover. Will try again next week.

Toller: Crosstalk code is in testing; preliminary results showed improvements for MWIR bands when the correction is applied to a single channel.
Xiong: Noise increases when using multiple channels to correct for crosstalk.

compiled by G. Fireman 9 August, 2001